

## NEW TAXA OF VENEZUELAN ARACEAE-II

George S. Bunting

### ANTHURIUM

***Anthurium bonplandii* Bunt. subsp. rionegrense** Bunt., subsp. nov.

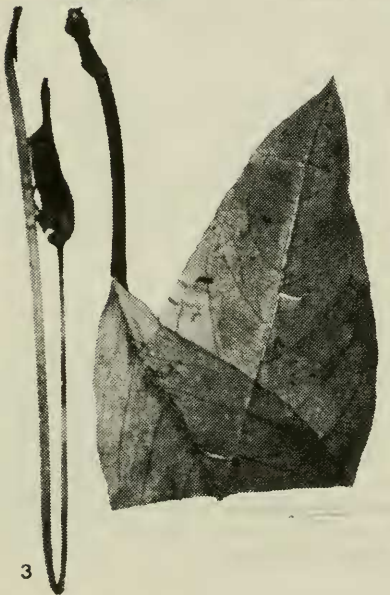
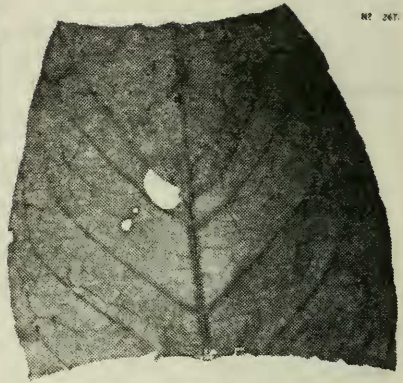
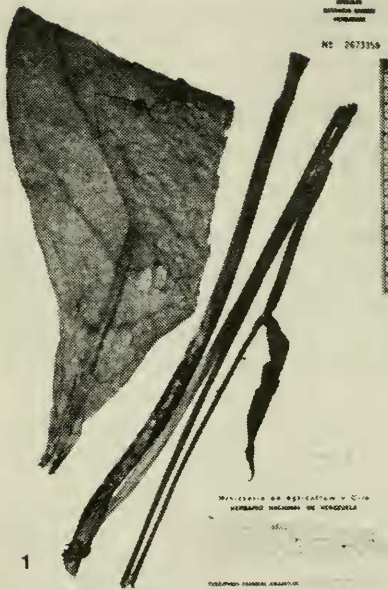
TYPE: Steyermark & Bunting 102741 (holotype, MO): Venezuela: Amazonas: Depto. Río Negro: San Carlos de Río Negro, selva en los alrededores del aeropuerto, 125 m, 17 Apr 1970. Figure 1 & 2.

A subspecies typica foliorum lamina coriacea elliptico-spathulata deorsum longe attenuata basi ipsa plerumque anguste acutangulari aliquando costa excurrenti, abaxiale punctis fuscis facilius distinguibilibus, spadice saepe sub anthesi atropurpureo vel violaceo (ante anthesin interdum ex viridi bubalina), spatha etiam sub fructu ut videtur persistenti differt. Habitat ad terram in sylvis in arena alba; subspecies typica in locis saxosis ("lajas") ad basim fruticum et arbuscularum necnon ad saxa et scopulos crescit.

This subspecies is imperfectly understood. The simplicity of form of its leaf blade, combined with the considerable plasticity of that form, makes analysis of variation difficult in species of this sort. The problem is compounded by the paucity of morphological and phenological data obtainable from the specimens. In contrast to the typical subspecies, this is terrestrial, growing on white sand, in forest or [persisting] in adjacent disturbed areas.

The typical subspecies is somewhat better known, with a distribution apparently restricted to the upper and adjacent middle Orinoco River drainage within the limits of the area of superposed Roraima sediments. In the large region of Territorio Federal Amazonas that lies to the south and east, has been collected a number of specimens of *Anthurium* of rosulate habit and spathulate or elliptic leaf blade. It is a polymorphic assemblage having affinities with *A. bonplandii*, *A. guayanum* Bunt., etc., and remains under study. (Cf. *A. vinillense* Bunt. and *A. xanthoneurum* Bunt., recently described from this region.)

*Anthurium bonplandii* subsp. *cuatrecasii* Croat is inseparable from the typical subspecies of this taxon, having been based on a collection nearly identical to type material of *A. bonplandii*. Both collections were made from plants growing within the zone of continuous distribution of this taxon along the Orinoco, in localities separated by about 150 kilometers, and both were growing on top of boulders. It may have been the intent of Croat to distinguish nomenclaturally the broader-leaved form of this species that occurs near Puerto Ayacucho, but in view of the considerable variation of the leaf blade outline among plants in different growth phases and habitats, that form does not seem to merit recognition, or if so, at no more than the level of varietas or forma (Fig. 5).



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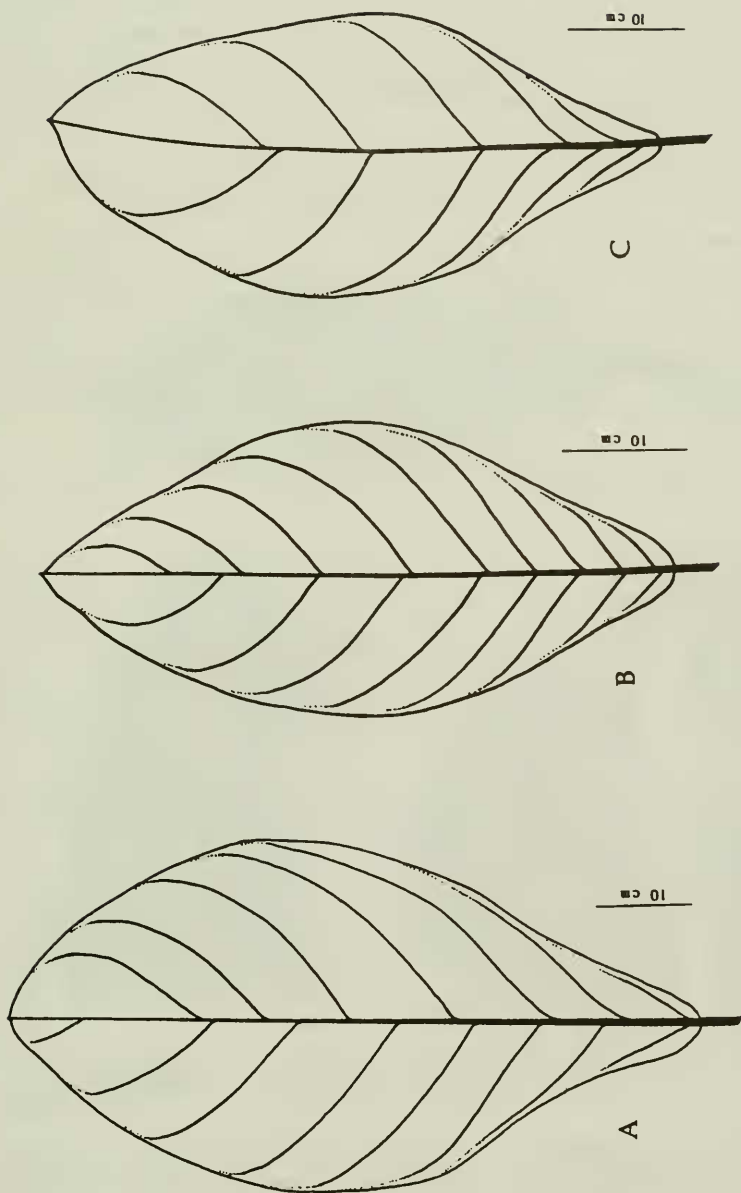


Figure 5. *Anthurium bonplandii* Bunt. subsp. *bonplandii*, outline of adult leaf blade: A, based on type collection, Bunting *et al.* 3676; B, C, based on Croat 55065 (type of subsp. *cuatrecasii* Croat).

**Anthurium corocoroense** Bunt., sp. nov. TYPE: Maguire & Maguire 35425 (holotype, NY): Venezuela: Amazonas: Depto. Atures: Cerro Yutaje, northwest ridge, in montane woodland, 1500 m, 1 Mar 1953. PARATYPE: Liesner & Holst 21816 (MO): 5-8 km NW of settlement of Yutaje, sandstone stream on S slope below plateau, stream flowing S from E side of unnamed peak, 3 km W of Río Coro-Coro, W of Serranía de Yutaje, 5°40' N., 66°9' W., 700-1000 m, 10 Mar 1987. Figure 3.

A A. bonplandii Bunt. foliorum lamina crassius coriacea fere cartilaginea plerumque elliptica apicem versus acuta apice ipso breviter acuminata differt.

Stem horizontal. Cataphyll to 11 cm long. Petiole (17-)27-47 cm long, semiterete. Leaf blade thickly coriaceous nearly cartilaginous, more or less flat, mostly elliptic or rhombic-elliptic sometimes widest slightly above middle, 40-58 cm long, 14-23 cm wide, 2.4-3(-3.8) times longer than wide, base narrowly cuneate (one margin sometimes slightly concave) to obtuse, brown-punctate abaxially. Spathe red to light green, curled to reflexed. Spadix light brown or gray-brown. Ripe fruits red-purple or purple.

This species is known only from the area of Cerro Yutaje. It is terrestrial, growing on white sand and in dry, rocky places, as well as on boulders, in seasonally dry forest.

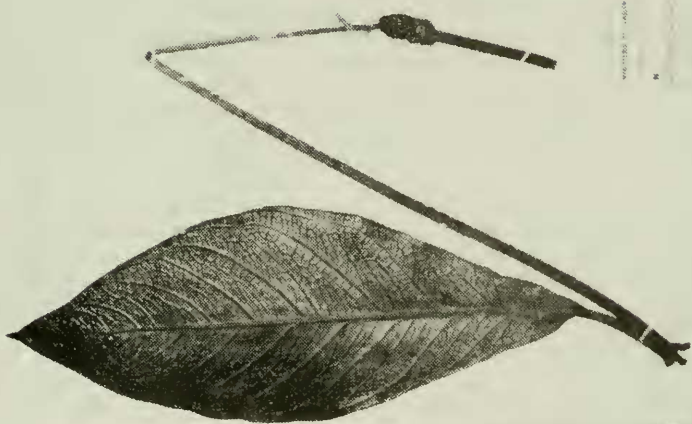
**Anthurium guaiquinimae** Bunt., sp. nov. TYPE: Steyermark, Dunsterville & Dunsterville 113258 (holotype, MO): Venezuela: Bolívar: Dto. Heres: cumbre del Cerro Guaiquinima, 1-2 km río arriba del Salto Szczerbanari (río Caparo), 5°44'4" N., 63°41'8" O., parte central del cerro, bordeando zanjón, 750 m, 20-25 Jan 1977. PARATYPE: Steyermark, Berry, Dunsterville & Dunsterville 117258 (MO): same locality, parte sur-oriental-central del cerro, lomas bosqueadas, 730-900 m., 24 May 1978. Figure 4.

A A. bonplandii foliorum lamina consistentia majore plana obovata ad extremitates ambas obtusa vel subtruncata, spatha latiore (in sicco ca. 10 cm longa et 2.5 cm lata) et persistenti concomitata distinguendum.

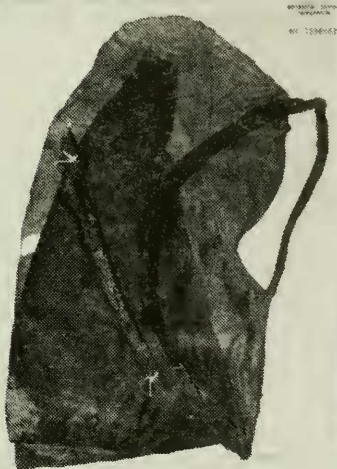
Rosulate herb. Petiole to 28 cm long, more than 2/3 as long as blade. Blade flexible or stiff coriaceous, obovate, 41-49 cm long, 15-15.7 cm wide, base and apex obtuse or subtruncate, abaxially sparsely brown-punctate. Spathe more or less oblong, to 9.7 cm long and 2.5 cm wide in sicco, 3.5 cm wide and pale green in vivo, persistent. Spadix dark purple, 10 cm long.

This is a common, terrestrial species on the summit of Cerro Guaiquinima, where it is apparently endemic.

**Anthurium vinillense** Bunt., sp. nov. TYPE: Huber 6201 (holotype, VEN; isotypes, MO, NY): Venezuela: Amazonas: Depto. Río Negro: sabana colinosa en el sector central de una altiplanicie en la



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Serranía del Vinilla, aprox. 20 km al SW de Mavaca, 2°26' N., 65°20' O., ca. 420 m, 13 Jun 1981. Figure 6.

A A. bonplandii Bunt. haud aegre distinguitur statura minore (ad 35 cm alta), foliorum lamina rigida dure coriacea ambabus superficibus nitida et omnibus nervis atque venis reticulatis valde elevatis, abaxiale multis punctis brunneis prominentibus notata; a A. xanthoneuro Bunt. petiolo proportione longiore saltem ad medium usque vaginato, lamina quam petiolo ca. 4-6plo (3.8-6.2) longiore (in illo petiolo laminae basi tenuis vaginato, lamina quam petiolo 11-14ies longiore), lamina elliptica vel anguste obovata (in illo spatulata), nervis reticulatis magis etiam elevatis, spadice brevior ad 10 cm longo (in illo ad 23 cm longo) stipiti longiori (ad 1.6 cm) insidente (in illo ad tantum 0.5 cm) recedit.

Small, tufted herb. Petiole stout, 3.2-5.2 cm long, sheath 1.5-2.7 cm long. Leaf blade stiff, very hard coriaceous but not extremely thick, elliptic to narrowly obovate and attenuate toward each end, 16-28 cm long, 4.3-9.5 cm wide (3-3.6 times longer than wide), very glossy on both faces with wide midrib and all veins strongly elevated and very prominent, abaxially densely brown-punctate. Peduncle 27-39 cm long. Spathe to 5 cm or more long and decurrent for 0.7-1 cm, early lost. Spadix to 10 cm long, 3.5-5 and 6 flowers wide respectively in contrary spirals, stipe 0.3-1.6 cm long. Fruits dark wine red.

Apparently pertaining to sect. *Pachyneurium* Schott, A. vinillense is known only from the Serranía del Vinilla, where it is terrestrial or uncommonly grows on rocks.

#### DRACONTIUM

Dracontium lineare Bunting & S. S. Tillett, sp. nov. TYPE: T. & G. Gragson 13 (holotype, US; isotype, MYF): Venezuela: Apure: Distritos Achaguas y Rómulo Gallegos: río Capanaparo, poco arriba de El Porvenir, en las cercanías del Hato San Joaquín (aprox. 6°48-52' N., 68°45-48' O.), en varios pequeños asentamientos Pumé incluso Tierra Fría, Doro Ana, Caño Negro, Tres Manantiales, Santa Bárbara, Los Mangos, Las Maravillas y Las Campanas, en estero, 80 m, 10 Jul 1986. PARATYPE: T. & G. Gragson 4 (US): same locality, open savanna in low, sandy areas, preferring hummocky ground near Caño Morichal, ca. 100 m, 4 May 1986. Figure 9.

Herba acaulescens 60-120 cm alta. Cormus ad 7.5 cm diam., ca. 4 cm crassus, supra cormulis obovoideis tectus, carne ex aurantiaco flava. Folia 2, ternato-pinnata. Petiolus teres 30-62 cm longus, sparsim papillosus, basi atropurpureus, apice in 3 petiolulos ascendentes divisus. Foliorum lamina omnibus partibus ascendentibus; pinna centralis petiolulo 6-19.5 cm longo in 3 pinnulas lineares divisa, pinnula centrali ad 45 cm longa in sicco 1.6 cm lata, pinnulis lateralibus ad 39 cm longis 0.9 cm latis; pinnae laterales petiolulo ad 12 cm longo in 2 pinnulas lineares ad 38-48 cm longas 1.1 cm latas divisae; pinnulae prope medium latissimae hinc ambas extremitates versus sensim attenuatae, costa prominenti, nervis lateralibus mani-



festis et divergentibus supra medium in nervum collectivum a margine 0.2-0.25 cm remotum conjunctis. Inflorescentia praecox, solitaria. Pedunculus 6 cm longus. Spatha convoluta in dimidio superiore sensim attenuata et valde incurvata, in sicco ca. 5.5 cm longa, demum partim aperiens y cucullata, in fructu retenta. Spadix 1.4 cm longus, flavus. Infructescentia globoidea ca. 2 cm longa et crassa, multis fructibus. Baccae obovoideae atropurpureae, in sicco 0.6 cm longae, 1-2-spermae. Semina ambitu plerumque apostrophiformia interdum subcircularia, 0.45 cm longa, 0.3 cm crassa, sucinacia et irregulariter pusticulata.

The leaves of this species are unique in the genus. The ternately pinnate blade has entire, narrowly linear laminae to only 1.6 cm wide (in sicco) and to 45 cm long; the central part of the blade has three such segments, and each lateral part has two. It is said to be difficult to distinguish these leaves from those of grasses and other plants among which they grow.

In this taxon, there are two or three flowers near the apex of the spadix that are each subtended by a pointed bract to 4.5 mm long, comparable, no doubt, to the somewhat larger processes that occur in *D. changuango* Bunt. and *D. aricuaisanum* Bunt.

This species is common in open savanna in a zone with a marked dry season, growing in low, moist sandy areas. At the time of leaf production, the habitats are inundated by 6-8 inches of water. The corm, which grows 2-4 inches below the soil surface, can be eaten after being boiled or roasted.

Common names: gipae (Pumé); changuango sabanero (Spanish).

#### HETEROPSIS

*Heteropsis flexuosa* (HBK) Bunt. var. *maguirei* Bunt., var. nov. TYPE: Maguire, Steyermark & Maguire 53515 (holotype, NY): Venezuela: Bolívar: alto río Cuyuni, río Uiri-yuk, El Foco, 30 Aug 1962.

A varietate typica differt petiolis multo longioribus, 1.4-2 cm longis (in illa 0.3-1.2 cm longis).

The longer petioles of this variety are very distinctive. Similar [sterile] material, with petioles to four cm long, has been collected at the base of Cerro Yapacana, Territorio Federal Amazonas.

#### PHILODENDRON

*Philodendron brevispathum* Schott subsp. *holmquistii* (Bunt.) Bunt., stat. nov. Philodendron holmquistii Bunt., Acta Bot. Venezuelica 10: 297. 1975. Philodendron brevispathum var. wurdackii Croat, Aroideana 9: 88. 1986.

The disjunct distribution and differences in floral characters easily distinguish this subspecies from the typical one. The apex



of the pistils is convex with three or four stigmatic pads, and the three or four locules per ovary are mostly 7-14-ovulate. Though existing collections suggest that this subspecies is not a common plant, it is widely distributed in the Orinoco drainage from Bolívar and Anzoátegui to the south of Territorio Federal Amazonas, as well as in adjacent Colombia and Brazil. In typical *P. brevispathum*, the apex of the pistils is more or less truncate, with a marginal flange and a central, solitary stigmatic pad, while the locules of the ovary are mostly 14-18-ovulate. It occurs only in Central America from Nicaragua to Panama.

It seems unwarranted to maintain *P. brevispathum* var. *wurdackii* as a separate taxon. The type specimen (Maguire et al. 36692 [NY, 2 sheets]) has deformed leaf blades: one is a monstrosity, the other imperfect. The VEN specimen of this collection is more nearly normal and offers insufficient bases for separation from the other material. It has a solitary inflorescence with the spadix borne on a stipe 11-12 mm long, as is typical in subsp. *holmquistii*, and the characters of the apex of the pistils correspond to this subspecies.

***Philodendron callosum* Krause subsp. *ptarianum* (Steayerm.) Bunt., stat. nov. *Philodendron ptarianum* Steayerm., Fieldiana Bot. 28: 99. 1951.**

The subspecies *ptarianum* has nearly smooth petioles (sometimes the geniculum verruculose) and leaf blades adaxially smooth or striolate-sulcate but not rugulose. It has a wide distribution in southeastern Venezuela, occurring on the sandstone mesetas of Edo. Bolívar and Territorio Federal Amazonas, and apparently grows in adjacent Brazil.

Typical *P. callosum* has densely verruculose petioles, and the leaf blades are rugulose adaxially with sulcate lateral veins interconnected by sulcate transverse veins. Though its known distribution in Venezuela is restricted to the eastern margin of the Gran Sabana, it also occurs in adjacent Guyana and Brazil.

***Philodendron conforme* Bunt., sp. nov. TYPE: Croat 59355 (MO): Venezuela: Amazonas: Depto. Río Negro: vicinity of Cerro Neblina project base camp, just east of camp along "Bongo Trail", along south bank of Río Mawarinuma, 0°50' N., 66°10' W., 140 m., 27 Nov 1984. Figure 7.**

*P. deflexo* Poepp. primo aspectu simile, sed ovarii loculis (2-)3-ovulatis statim dignoscendum (in *illo* uniovulatis); a *P. yutajensi* Bunt. omnium partium magnitudine majore, cataphyllis caducis itaque caule nudo, petiolo ad medium tereti, laminae costalis posticis in sinu per tantum 2.5 cm nudis (in *illo* 5.5-6 cm), spatha pedunculo suo 2-3plo longiore (in *illo* spatha pedunculum aequante), ovarii loculis ovulis paucioribus ferentibus differt; a *P. nebulensi* Bunt. iterum cataphyllis caducis itaque caule nuda, praeterea petiolo laminam aequante, lamina proportione paulo latiore differt.

Short climber. Petiole terete (at middle), 57-65 cm long. Leaf blade equalling petiole, stiff-chartaceous in sicco, ovate-triangular in outline, 55-67 cm long, ca. 32-48 cm wide (1.4-1.7 times longer than wide), base cordate-sagittate, apex obtuse and acuminate, sinus between posterior lobes mitriform and 16 cm deep, basal ribs nude 2.5 cm. Peduncle solitary, 4.5 cm long. Spathe to 13 cm long, not constricted. Spadix sessile, 10 cm long, pistillate part 4 cm long. Ovary 6-8-locular, locules (2-)3-ovulate.

A member of section *Oligospermium* Engl. § *Macrobelym* Schott, this species has several (ca. 3) ovules present in each locule of the ovary, easily separating it from the vegetatively similar *P. deflexum*, which has the locules uniovulate.

***Philodendron englerianum*** Steyerem. subsp. ***duidae*** (Steyerem.) Bunt., stat. nov. *Philodendron duidae* Steyerem., *Fieldiana Bot.* 28: 96. Fig. 13. 1951.

This taxon differs from typical *P. englerianum* by having proportionally wider leaf blades that are peltate, the posterior lobes being fused for 1.0-3.6 cm. It grows on the sandstone mesetas of Territorio Federal Amazonas and on some of those of Edo. Bolívar. The typical subspecies, distinguished by the unfused posterior lobes of the leaf blade, grows only in the northeastern area of the Gran Sabana.

***Philodendron holstii*** Bunt., sp. nov. TYPE: Liesner & Holst 21252 (holotype, MO): Venezuela: Amazonas: Depto. Atures: seasonally dry forest along stream 0.5-2 km east of Rio Coro-Coro, west of Serranía de Yutaje, 3 km north of settlement of Yutaje, 5°38'N., 66°7'30" W., 200 m, 19 Feb 1987. Figure 8.

Herba erecta(?). Caulis 3 cm diam. parte terminali cataphyllis atque reliquiis suis et radicibus adventitiis occultus. Cataphyllum ca. 23 cm longum in situ marcescens paulatim fractans et solum. Petiolus subteres sed adaxiale anguste sulcatus sulcae marginibus obtusangulis, 54-57 cm longus, vagina 5.5-5.8 cm longa; geniculum 1.5-2 cm longum. Foliorum lamina longitudine 0.7 petioli partes aequans, chartaceo-semicoriacea, elliptica, 37.5-39.5 cm longa 17.8-18.7 cm lata, ca. 2plo longior quam latior, ad ambas extremitates plus minusve aequae obtusa, apice ipso breviter acuminata, in superficiebus ambabus multis punctis brunneis notata, adaxiale nervis lateralibus omnibus subaequaliter manifestis, abaxiale nervis lateralibus I. utrinque 7-8 quam ceteros validioribus sub angulo 50-55° abeuntibus. Pedunculus solitarius 14-16 cm longus. Spatha sursum attenuata 13.5-15.5 cm longa tubo bene discreto 4.5 longo 2.1-2.7 cm crasso. Spadix spatha paulo brevior ad 13.5 cm longus stipite 0.6 cm longo insidens, parte pistillata 2.4 cm longa, parte staminata sterili 0.5-1 cm longa fertili 9.5-10 cm longa. Flores pistillati ovario 2-loculari, ovulis in quoque loculo ca. 6 superpositis. Flores staminati 4-andri.

Erect(?) herb. Stem hidden in upper part by adventitious roots and accumulated dry cataphylls and remains. Petiole terete but

adaxially with a slender median groove with rounded margins, 54-57 cm long, sheath to 5.8 cm long; geniculum ca. 1.5-2 cm long. Leaf blade 0.7 of petiole length, chartaceous-semicoriaceous, elliptic, 37.5-39.5 cm long, 17.8-18.7 cm wide (2.1 times longer than wide), equally obtuse at each end, with numerous, fine, dark brown punctations on both faces, all lateral veins fine and subequal adaxially, abaxially with ca. 7-8 lateral veins per side slightly stronger than the rest. Peduncle solitary, 14-16 cm long. Spathe 13.5 cm long, tube well-defined and 4.5 cm long. Spadix on a stipe 0.6 cm long, pistillate part 2.4 cm long, sterile staminate part 0.5-1 cm long, fertile part 9.5-10 cm long. Ovary 2-locular, each locule with ca. 6 ovules superposed in each of two rows. Staminate flowers 4-stamened.

Philodendron holstii pertains to section Philopsammus. It is distinguished by the rather thin-textured, elliptic leaf blades prominently dark-punctate on both faces. The epithet honors Bruce Holst, a fine collector now studying the flora of Venezuelan Guayana.

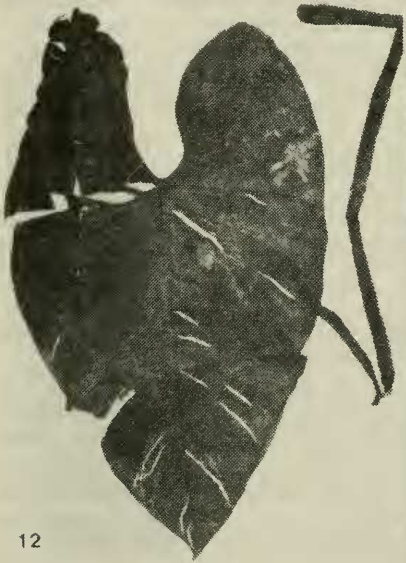
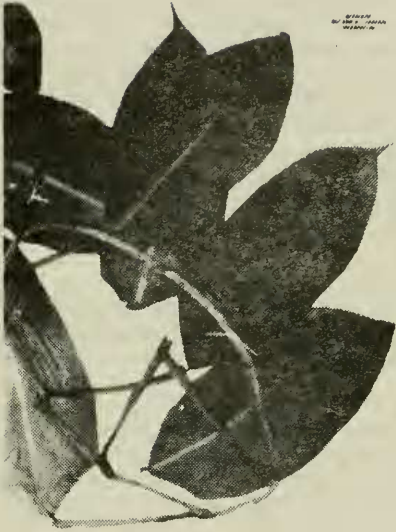
**Philodendron linnaei Schott var. rionegense Bunt., var. nov. TYPE: Liesner 6707 (holotype, VEN; isotype, MO): Venezuela: Amazonas: Depto. Río Negro: IVIC study site 4 km NE of San Carlos de Río Negro, ca. 20 km S of confluence of Río Negro and Brazo Casiquiare, 1°56' N., 67°3' W., 120 m, 16 Apr 1979.**

A varietate typica foliorum lamina in sicco brunnescenti (in illa viridi vel griseo-viridi) et venulis transversalibus prominentibus inter nervos laterales carenti, pedunculis longioribus (16-35 cm), spathe extus ut videtur rubro-purpurea intus omnino rubra, florum pistillatorum ovario biloculari distinguenda (in varietate typica spathe extus intusque tubo rubro limbo albo, ovario (4-)5-7-loculari); a P. insigni foliorum lamina anguste obovata basi angustissime cuneata, multis nervis lateralibus omnibus subaequalibus (in illo aliquot nervis lateralibus quam ceteros validioribus), spathe extus omnino purpurea (in illo alba) differt.

Leaves of this variety dry a rather light brown color, in contrast to the more or less green color maintained by dry leaves of the typical variety. Furthermore, they lack transverse veinlets interconnecting the numerous lateral veins, the spathe is overall purple on the outside and red inside, and the locules of the ovary are bilocular.

Aside from the distinctive coloration of dried specimens, this new taxon bears much resemblance to the typical variety. By contrast, the leaves of P. insigni normally dry brown, but are obtuse to rounded-subtruncate at base with the lateral veins distinguished (especially abaxially) into primary and lesser lateral veins.

There is a similarity between this new taxon and P. decurrens Krause, a species collected in the Serra de Pacaraima in the present state of Roraima, Brazil. The latter, however, is described as having a shorter petiole, a white spathe, and a four-locular ovary. I have not seen the type material.



The variety rionegrense appears to be restricted to southwestern Territorio Federal Amazonas (and probably adjacent Colombia), at lower elevations. A collection from Cerro Yapacana (Steyermark & Bunting 103275) differs from the San Carlos material only by the firmer consistency of the leaf blade. The typical variety is amply distributed in Venezuela from Monagas and Delta Amacuro to Amazonas, including the area of San Carlos de Río Negro!

***Philodendron mawarinumae*** Bunt., sp. nov. TYPE: T. B. Croat 59339 (holotype, MO): Venezuela: Amazonas: Depto. Río Negro: vicinity of Cerro de la Neblina base camp on Río Mawarinuma, 0°50' N., 66°10' W., 140 m, 26 Nov 1984. Figure 10.

Herba scandens. Caulis internodiis 5-6.5 cm longis. Petiolus modice late alatus, 9-9.5 cm longus, alis patentibus 0.8-0.9 cm latis plus minusve planis inaequilateralibus latere latiore ad apicem auriculato usque ad 0.2 cm infra laminae basim attingentibus; geniculum 0.3 cm longum. Foliorum lamina petiolo duplo vel ultra longior, in vivo subcoriacea plerumque elliptica vel oblonga interdum paulo supra vel infra medium latissima (in stirpe juvenili anguste oblongo-elliptica ca. dimidio minor), ad 21 cm longa 8.7 cm lata, ca. 2-3plo longior quam latior, valde inaequilateralis latere altero quam alterum 0.5-1.6 cm latiore, ad basim late cuneata, ad apicem obtusa et abrupte acuminata (3 cm), adaxiale atroviridis impolitaque (in vivo) costa concava prominenti et nervis lateralibus obsolete, abaxiale pallidior nervis lateralibus vix discretis et sine lateralibus primariis manifestis. Inflorescentia ignota.

Climbing herb. Stem with internodes 5-6.5 cm long. Petiole 9-9.5 cm long, rather broadly alate, wings more or less flat and spreading, 0.8-0.9 cm across, inequilateral with the wider side apically auriculate, reaching to within 0.2 cm of base of blade; geniculum 0.3 cm long. Leaf blade two or more times longer than petiole, in vivo subcoriaceous, mostly elliptic or oblong, sometimes widest a little above or below middle (in juvenile shoots narrowly oblong-elliptic and only about half as large), to 21 cm long, 8.7 cm wide, (2.1-)2.4-2.8 times longer than wide, strongly inequilateral with one side 0.5-1.6 cm wider than other, base obtuse with narrower side more or less convex and wider side nearly straight in lower 3-4 cm then becoming convex beyond (at least in sicco), apex obtuse and abruptly acuminate (3 cm), adaxially matte with concave midrib and scarcely visible lateral veins, abaxially with lateral veins weakly visible, without stronger (i.e., primary) laterals on either surface, all veins arising at angle of ca. 30°. Inflorescence unknown.

*Philodendron mawarinumae* is a member of sect. *Pteromischum* Schott. It is known only from the type collection.

***Philodendron nebulense*** Bunt., sp. nov. TYPE: T. B. Croat 57479 (holotype, MO): Venezuela: Amazonas: Depto. Río Negro: Cerro de la Neblina, Camp #7, south slope of Cañon Grande, along river below camp, 0°55' N., 66° W., 1800 m, 29 Nov 1984. Figure 12 & 13.



A P. ornato Schott petiolo terete laevique (in illo fere semiterete et plerumque saltum parte distali verruculoso), foliorum lamina coriacea (in illo tenuiore), margine lobi antici altera ex medio deorsum sat recta, lobis posticis sat angularibus (in illo semper rotundatis) distinguitur.

Climbing herb. Stem to 4 cm diam., internodes short. Cataphyll to 26 cm long, wilting and drying in place, later decomposing to masses of fine, reticulate, tan fibers and epidermal remains. Petiole terete at middle, toward apex slightly flattened, 54-62 cm long. Leaf blade 0.73-0.85 as long as petiole, reflexed, subcoriaceous (in sicco), more or less ovate in outline, or one side with margin nearly straight in lower half, 45-51 cm long, 26-29 cm wide (1.6-1.76 times longer than wide), base cordate-sagittate, toward apex obtuse and widely acuminate (1.5 cm); posterior lobes introrse, trapeziform-triangular and angulose but apically blunt, or more or less rounded, separated by a somewhat spatulate or subtrifoliate sinus 14-15.5 cm deep; matte on both faces (in sicco), 1. lateral veins ca. 5 per side with well-marked II. and III. laterals, arising at angle of ca. 60-65°, arcuate throughout, posterior lobes with 2 principal lateral veins toward outside and 2-3 weaker ones descending, the basal ribs nude in sinus for 2-4 cm. Inflorescence unknown.

This species suggests P. ornatum Schott, but the petiole is terete and smooth rather than nearly semiterete and verruculose, and the coriaceous leaf blade often has the lateral margin on one side quite straight in the lower half and the posterior lobes rather angular. By its epiphytic habit, it differs from P. yuta-jense, as well as by its ovate leaf blade widest at a point opposite to, or slightly above, the petiole insertion, and by the shorter nude portion of the basal ribs. Differences between P. nebulense and P. conforme are discussed under the latter species. Until fertile material is collected, however, it is impossible to ascertain the natural affinities of P. nebulense.

**Philodendron peperomioides** Bunt., sp. nov. TYPE: B. Holst & R. Liesner 2704 (holotype, MO): Venezuela: Bolívar: Dtto. Piar: southwest base of Amaruay-tepui, W of Aparamán-tepui, 5°55' N., 62°15' W., 500-600 m, 25 Apr 1986. Figure 14.

Philodendri rudgeani Schott primo adpectu maxime simile, sed alis petiolaribus paulo tantum apertis et usque ad vel paulo ultra geniculi basim productis, foliorum lamina in sicco semicoriacea apice leniter acuminata, nervis lateralibus primariis utrinque ca. 6 sub angulo 35-40° prodeuntibus.

Scandent herb. Old stems with internodes 10.5-12.5 cm long, 0.5 cm diam.; terminal branches leafy and pendent, internodes 0.5-2 cm long, with yellowish, epidermal layer sloughing off. Leaves apparently distichous. Petiole slender; wings slightly open, apically rounded, prominently ribbed, ca. 0.5 cm wide, ending at or slightly beyond the base of geniculum; geniculum to 0.5 cm long. Leaf blade



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ca. 3 times longer than petiole, semicoriaceous, in sicco somewhat pliable, narrowly obovate, to 15.5 cm long, 4.6 cm wide (3.4 times longer than wide), flat, base narrowly cuneate, apex gently acuminate with a 1 mm-long cusp, matte on both faces, midrib slightly elevated on both faces, lateral veins all subequal adaxially, abaxially with 6 l. lateral veins arising at angle of 35-45°. Inflorescence unknown.

This taxon is a member of sect. *Pteromischum*. It differs from *P. rudgeanum* by the petiole wings only slightly open (not spreading) and reaching only to or slightly beyond the base of the geniculum (not to or beyond the base of the blade). Moreover, the leaf blade has a thicker consistency, its apex is gently (not abruptly) acuminate, and the fewer primary lateral veins arise at a sharper angle. Unfortunately, the available material is sterile.

*Philodendron peperomioides* is known only from the type collection made at 500-600 m elevation, in a dryer habitat than that of the coastal lowland forests where *P. rudgeanum* occurs.

***Philodendron phlebodes* Bunt. var. *kermesinum* Bunt., var. nov. TYPE: Maguire, Wurdark & Bunting 37383 (holotype, NY): Venezuela: Amazonas: Depto. Río Negro: Cerro de la Neblina, slope forest between camp 2 and 3, on top of boulders, ca. 500 m, 24 Jan 1954.**

A varietate typica foliorum lamina majore ad 66 cm longa qua ex supra medium deorsum plus minusve oblonga est (in illa ad tantum 56 cm longa et ambitu ovata), spatha intus ubique kermesina (non cremicolori), spadiceis parte pistillata multo brevior tantum 2.3 cm longa (in illa 7-10 cm longa) differt.

The leaf blade of this variety, which reaches 66 cm long and 35 cm wide, is more or less oblong in outline in the lower two-thirds. While the spathe is cream-colored on the outside, as in the typical variety, it is red overall on the inside, and the pistillate part of the spadix is quite short. There is some question if the latter characteristic is a valid difference or only a manifestation of ovary maturation.

This taxon is represented by a single collection made at an altitude of 500 m on the slopes of Cerro de la Neblina. Typical *P. phlebodes* occurs more widely in the southern part of Territorio Federal Amazonas, as a climber on tree trunks in lowland forest at ca. 125 m altitude.

***Philodendron remifolium* Schultes subsp. *sabulosum* (Bunt.) Bunt., stat. nov. *Philodendron sabulosum* Bunt., *Phytologia* 60: 326. 1986.**

The leaf blade of typical *P. remifolium* has the form of a paddle used by indigenous peoples of the area, in the type specimen being 1.7 times longer than wide, with the petiole shorter than the blade

(0.8 as long). Venezuelan material of this affinity has narrower leaf blades 2-3(-3.5) times longer than wide, with a petiole to 1.5 times longer than the blade.

There are also differences in the inflorescences. In subspecies sabulosum, the inside of the spathe tube is red or wine, while the limb is white becoming rose dotted with wine. No red coloration has been reported in the spathe of the typical subspecies. The staminate flowers, which are mostly 4-stamened in subsp. sabulosum, are apparently identical to those of subsp. remifolium, judging from the fine illustration accompanying its original publication, notwithstanding a statement to the contrary in the description.

The known area of distribution of subsp. sabulosum in Venezuela (Ríos Atabapo, Guainía and Negro) is separated from that of the typical subspecies in southeastern Colombia by more than 350 km, but it is unknown if this represents a disjunction or only a lack of botanical collection in the intervening region.

***Philodendron samayense*** Bunt., sp. nov. TYPE: R. Liesner & B. Holst 18850 (holotype, MO): Venezuela: Bolívar: Dpto. Roscio: 5 km S of El Paují, "El Abismo", Río Samay, affluent of Icabarú, 4°23' N., 61°38' W., 520 m, 21 Oct 1985. Figure 15.

Herba scandens. Caulis ramulis terminalibus pendentibus ca. 0.5 cm diam. internodiis 5-6.5 cm longis. Petiolus 6.5-8.5 cm longus, praeter per 0.2-0.6 cm distalia omnino vaginatus alis apertis planisque, 0.6-0.7 cm latus (in folia inflorescentia subtendenti latioribus); geniculum 0.3-0.5 cm longum. Foliorum lamina petiolo sesqui-2plo (1.3-2.2) longior, rigida, chartaceo-semicoriacea (in sicco fragilis) ovata conspicue inaequilateralis, 9.5-18.5 cm longa 3.8-5.3 cm lata, ex loco latissimo sursum apicem versus attenuata demum acuminata (2.5 cm), marginibus subtiliter undulatis, in ambabus superficiebus laevissima, nervis lateralibus utrinque ca. 6 sub angulo 40-55° oreuntibus adaxiale obsolete. Pedunculus solitarius, 1.8-2.3 cm longus. Spatha 7.5-9 cm longa vix contracta tubo 4.5-4.8 cm longo. Spadix spatha 0.3 cm brevior stipiti 1 cm longo insidens, parte pistillata necnon parte staminata uterque 3.8 cm longa. Flores pistillati ovario 4-loculari, ovulis in quoque loculo numerosis superpositisque.

A member of sect. *Pteromisochum*, this species is separated from other Guayanan species of this group by its distinctive leaf. The blade, which is narrowly ovate in outline (2.5-3.8 times longer than wide), is somewhat inequilateral as well as lightly falcate - both characters accentuated at the acuminate apex. It has only ca. 6 primary lateral veins on each side, and these are scarcely discernible on the adaxial face. Moreover, the wings of the petiole do not extend beyond the base of the geniculum. This taxon is close to *P. guttiferum*; unfortunately, the latter, as presently construed, is either very polymorphic or, more probably, a collection of several different species.

***Philodendron scitulum*** Bunt., sp. nov. TYPE: Liesner 17771 (holotype: MO): Venezuela: Amazonas: Dpto. Atures: slope of Cerro

Marahuaca, Río Yameduaka arriba, 3°38' N., 65°28' W., 1225 m, 21 Feb 1985. Figure 11.

Herba scandens. Caulis internodiis elongatis (18 cm) reliquiis cataphyllicis tenuiter fibrosis persistentibus. Cataphyllum 14.5 cm longum. Petiolus fere teres, ca. 16 cm longus. Foliorum lamina in sicco plus minusve chartacea ambitu plus minusve triangularis 29 cm longa 19.2 cm lata (inter apices loborum posteriorum latissima); lobo antico marginibus leviter convexus sed in loco 2.5 cm supra basim costae paulo contracto et 14 cm lato, apice leniter acuminato (ca. 2.5 cm); lobis posticis suboblongis 5.7 cm latis apice rotundatis, aliquantum extrorsis sinu late parabolico 6.5 cm profundo sejunctis; nervis lateralibus I. tenuibus in lobo antico 4-5, pari laterale infimo sub angulo ca. 90° pari secundo ca. 75° pari tertio ca. 65° abeuntibus, lobis posticis uterque nervis lateralibus validis ca. 3 basim versus conjunctis et in sinu per ca. 1.5-2 cm nudis. Inflorescentia ignota.

This species is totally distinct from P. auyantepuiense Bunt., differing by the proportionally broader leaf blade of thinner consistency with a few, more or less prominent, primary lateral veins. The latter species, known only from Auyántepeui in the state of Bolívar, has a coriaceous (in vivo possibly somewhat fleshy) leaf blade with numerous, subequal lateral veins all manifest and a few primary lateral veins weakly discernible abaxially.

This differs from P. yutajense by the extrorse posterior lobes of the leaf blade and the nearly terete petiole. Moreover, it is an epiphyte, while the latter is terrestrial or grows on boulders.

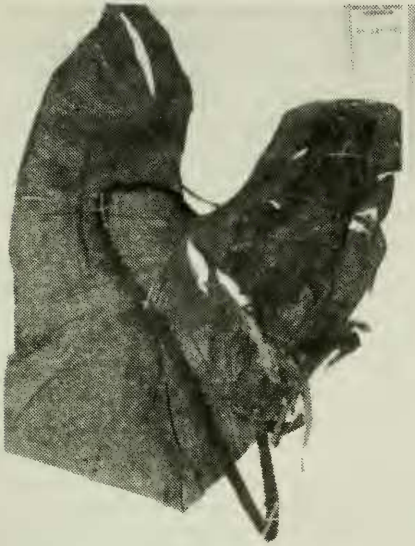
There is some question if the type specimen of P. scitulum is adult or not.

**Philodendron simulans** Bunt., sp. nov. TYPE: T. B. Croat 59427 (holotype: MO): Venezuela: Amazonas: Depto. Río Negro: Cerro de la Neblina, Camp #7, south slopes of Cañon Grande, along river below camp, 0°55' N., 66° W., 1800 m, 29 Nov 1984. Figure 16.

Quoad ambitum foliorum laminae ad P. acutatum Schott accedit, sed ab eo differt caule in parte terminali reliquiis cataphyllicis persistentibus, costa et nervis lateralibus principalibus minus insignibus et in sicco quam lamina obscurioribus, nervis lateralibus sub angulo acutiore in lobo antico sub angulo ca. 50-55° in lobis posticis sub angulo ca. 30-40° abeuntibus (in illo nervis principalibus insignibus in sicco quam lamina pallidior, in lobo antico nervis lateralibus sub angulo ca. 70-80° in lobis posticis sub angulo ca. 45-60° abeuntibus); a P. yutajense Bunt. habitu epiphytico, petiolo adaxiale paulo tantum applanato, foliorum lamina in loco insertione petioli opposito latissima, costulis in sinu brevius nudis recedit.

Climbing herb. Stem 1-2 cm diam., internodes 1-4 cm long, in upper part with semi-intact, dry cataphylls persistent and slowly weathering to shreds and fibers. Petiole somewhat spongy, weakly flattened adaxially, to 48 cm long (equaling or slightly exceeding blade). Leaf blade subcoriaceous, ovate, to 42 cm long, 25 cm wide at point just below petiole insertion, apex briefly acuminate, posterior lobes more or less trapeziform and separated by a narrow-

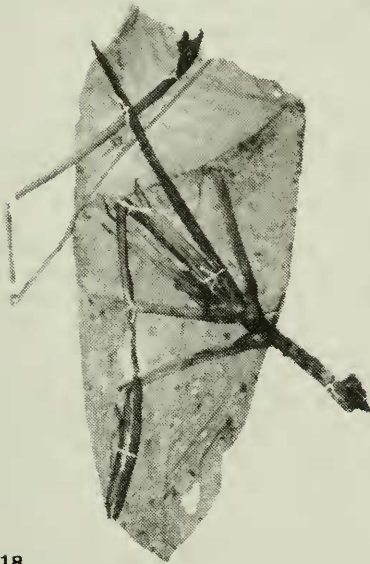




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ly parabolic sinus to 12 cm deep. Inflorescence unknown.

The retention of the old cataphylls easily distinguishes this species from P. acutatum. Also, the nervature is inconspicuous, drying darker brown than the ground color of the blade, and the primary lateral veins arise at a sharper angle. In P. acutatum, the veins are conspicuous, drying much paler than the base color of the blade, and the primary lateral veins originate at a wide angle (70-80°). From P. ornatum Schott, this taxon differs by the petiole weakly flattened adaxially and the leaf blade of different outline.

**Philodendron yutajense** Bunt., sp. nov. TYPE: R. Liesner & B. Holst 21858 (holotype, MO): Venezuela: Amazonas: Depto. Atures: 5-8 km northwest of settlement of Yutaje, 3 km W of Río Coro-Coro, west of Serranía de Yutaje, 5°40' N., 66°9' W., streambank in forest, 800-1000 m, 11 Mar 1987. PARATYPE: Liesner & Holst 21556 (MO): same locality; on boulders in open forest, 1000-1050 m, 3 Mar 1987. Figure 17.

Herba. Caulis ca. 3 cm diam. sed radicum adventitiarum et reliquiarum cataphyllarum strato crasso vestitus, internodiis brevissimis. Cataphyllum 20-25 cm longum. Petiolus abaxiale rotundatus adaxiale plus minusve planus marginibus bene discretis, 68-76 cm longus. Foliorum lamina longitudine 0.74-0.85 petioli partes aequans, reflexa, semicoriacea, ambitu plus minusve triangularis, 50.5-59.5 cm longa 30.5-ca. 34 cm lata (plus minusve sesquilongior quam latior) inter apices loborum posticorum latissima, ad apicem acuminata, lobis posticis obtusis latere interiore rotundatis sinu late campaniformi vel submitriformi 15-18 cm profundo 9.5 cm lato sejunctis, nervis lateralibus I. ca. 5-7 sub angulo 55-60° ex costa abeuntibus, costulis posticis per 5.5-6 cm in sinu nudis. Pedunculus solitarius ca. 11 cm longus. Spathe aliquantum crassa, 12 cm longa tubo antice 6 cm postice 4 cm longo. Spadix 8.5 cm longus, parte pistillata ca. 2.5 cm longa, parte staminata sterili non discreta. Flores pistillati ovario 6-7-loculari, loculis 4-6-ovulatis, ovulis secus placentae totam longitudinem affixis.

With a superficial resemblance to P. deflexum Poepp., this species differs by the presence of a thick layer of fibrous debris on the upper part of the stem. Furthermore, the peduncle is scarcely as long as the spathe, and the locules of the ovary are 4-6-ovulate.

The habitat of this taxon is terrestrial or on boulders, in contrast to the epiphytic nature of P. nebulense. It also differs from the latter by the petiole with the adaxial face flat, and the nearly triangular leaf blade widest across the tips of the posterior lobes, the basal ribs of which are nude in the sinus for a longer distance. Differences from P. conforme are discussed under that species.

Perhaps most closely related to members of sect. Oligospermium Engl., P. yutajense does not agree well with the description of that section in regard to the insertion of the ovules. In this species, they are fixed along the whole length of the placenta, rather than at or near the base of the locules.

## RHODOSPATHA

**Rhodospatha brachypoda** Bunt., sp. nov. TYPE: Liesner 15978 (holotype, VEN; isotype, MO): Venezuela: Amazonas: Depto. Río Negro: white water river 0-1 km south of Río Mawarinuma, 3 km by air east of Cerro de la Neblina base camp, 0°50' N., 66°9' W., 140 m, 15 Feb 1984. PARATYPE: T. B. Croat 59586 (MO): same locality, along trail straight across Río Mawarinuma from base camp, 3 Dec 1984. Figure 18.

Herba scandens. Caulis 1.5-2 cm diam., internodiis 1-2 cm longis. Petiolus 31-32 cm longus ad basim geniculi usque vaginatus alis persistentibus; geniculum adaxiale sulcatum, 2.5-3.3 cm longum. Foliorum lamina chartacea vel subcoriacea, elliptica vel obovata, inaequilatera, 48-56 cm longa 15.5-17.5 cm lata magis quam 3plo (3.3) longior quam latior, basi acuta vel obtusa et brevissime angustata, apice obtusa cum acumine, in sicco viridula vel ochracea pallida margine fuscata, nervis lateralibus I. numerosis sub angulo ca. 50-70° abeuntibus et inter se 0.9-1.7 cm distantibus. Pedunculus 19-31 cm longus. Spatha caduca ignotaque. Spadix griseo-venetus sub anthesi 9.5 cm longus 0.7 cm crassus demum 15.5 cm longus 1.6 cm crassus, stipitatus stipite postice 1.3-1.8 cm antice 0.3 cm longo.

There is a superficial resemblance between this species and R. oblongata Poepp., both having the leaf blade more than three times longer than wide, but in this, the blade is more nearly obovate, the petiole is proportionally shorter (0.56-0.64 of blade length) with the sheath reaching up to the base of the geniculum, and the flowers at the base of the spadix are not widely separated and sterile.

**Rhodospatha cardonae** Bunt., sp. nov. TYPE: Liesner & Stannard 16911 (holotype, MO): Venezuela: Amazonas: Depto. Río Negro: Cerro de la Neblina, Camp V, valley north base of Pico Cardona, 0°49' N., 66° W., 1250 m, 21-24 Mar 1984. Figure 19.

Herba scandens. Caulis 1.3 cm diam. internodiis 1.5 cm longis. Petiolus usque ad 40 cm longus fere vel omnino ad basim geniculi vaginatus alis persistentibus (non siccantibus); geniculum ad 2.3 cm longum. Foliorum lamina plus minusve rigida chartaceo-semicoriacea, elliptico-oblonga aliquantum inaequilatera usque ad 35.5 cm longa 12.7 cm lata, fere 3plo (2.8) longior quam latior, ad basim valde inaequalis marginibus rotundatis, ad apicem late acuta apice ipso breviter acuminato, in sicco superficiebus ambabus brunnea, nervis lateralibus I. utrinque ca. 30 inter se 0.8-1.7 cm distantibus sub angulo ca. 70-80° oreuntibus. Pedunculus 25 cm longus. Spathe ignota. Spadix 12.5 cm vel plus longus 0.9 cm crassus stipitatus stipite postice 0.7 antice 1.6 cm longo.

The distinctive features of this species are the rather small, strongly inequilateral leaf blade and persistent wings of the petiole sheath that reaches to within 2 cm of, or quite up to, the base of the geniculum. A similar leaf shape occurs in R. latifolia Poepp., a Peruvian species, but in that, the blade is proportionally broader, and the wings of the petiole sheath, which ends 4-5

cm below the leaf blade, are not persistent but rather slowly dry and slough off.

### SPATHIPHYLLUM

**Spathiphyllum bariense** Bunt., sp. nov. TYPE: Liesner 16984 (holotype, MO): Venezuela: Amazonas: Depto. Río Negro: upper Caño Baria, swampy area between Río Mawarinuma and headwaters of Río Baria, 0°53' N., 66°15' W., 130 m, 28 Mar 1984. Figure 20.

Herba ca. 75 cm alta. Petiolus crassitie modica, ad 56 cm longus, per 24 cm proximalia vaginatus; geniculum 2.1 cm longum. Foliorum lamina longitudine 0.59 petioli partes aequans, ambitu ovata, ad 33 cm longa 13.8 cm lata, latitudine  $2/5$  (0.37-0.42) longitudinis suae partes aequans, basi obtusa et brevissime angustata, apice acuta acuminataque, nervis lateralibus validis numerosis 0.5-0.8 cm inter se distantibus, sub angulo ca. 60-70° abeuntibus. Pedunculus ad 75 cm longus. Spatha patens elliptico-ovata (caudicula 2 cm longa inclusa) ad 14 cm longa 3.7-4.1 cm lata, basi acuta et breve angustata plus minusve substipitata (ca. 1 cm), apice longissime attenuata, alba demum viridis. Spadix sub anthesi 6.7 cm longus 0.6 cm crassus (in sicco), sub fructu 8.5 cm longus 0.9 cm crassus, stipiti 2-2.2 cm longo insidens, albus demum viridis. Pistilla apice ut videtur truncata ovario 2-loculari et loculis 3-ovulatis.

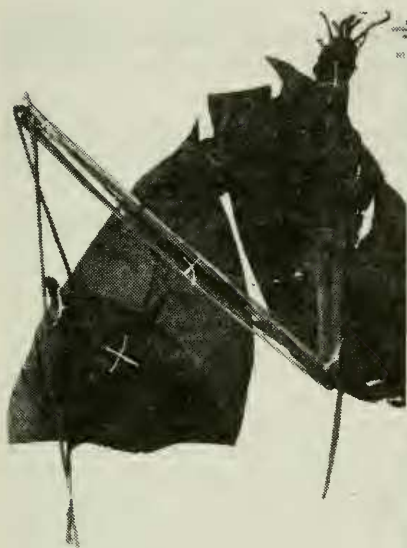
This species apparently pertains to sect. *Amomophyllum* Engl. It differs from *S. mawarinumae* Bunt. by the much longer petiole (1.7 times longer than blade), the proportionally broader leaf blade (2.4-2.7 times longer than wide), and the much longer peduncle. From *S. cuspidatum* Schott, it can be distinguished by the much broader leaf blade. The shape of the pistils as well as the broader leaf blade separate this from *S. humboldtii* Schott.

**Spathiphyllum mawarinumae** Bunt., sp. nov. TYPE: W. W. Thomas & T. Plowman 3104 (holotype, VEN): Venezuela: Amazonas: Depto. Río Negro: Cerro de la Neblina, vicinity of base camp on Río Mawarinuma, 0°50' N., 66°10' W., forest on alluvial flood plain across river from base camp, 140 m, 17 Apr 1984. Figure 21.

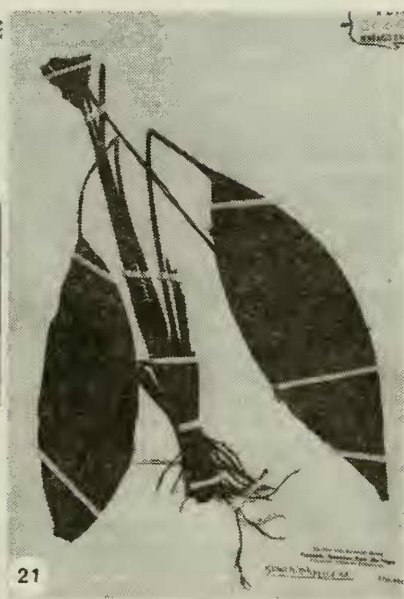
A *S. humboldtii* Schott omnibus partibus minoribus, foliorum lamina proportione paulo latiore, petiolo laminam subaequante vel ea breviora (in illo plus minusve sesquilongiore), pistillis subtruncatis dignoscendum.

Tufted herb. Petiole to 22 cm long with sheath reaching to middle or above; geniculum 1.3-1.7 cm long. Leaf blade elliptic, ca. 23 cm long, 6.8 cm wide, equally narrowed toward each end, apex acuminate; primary lateral veins ca. 9 on each side, forming angle of ca. 35-40°. Peduncle to 35 cm long. Spathe of more or less same shape as leaf blade but apically longer acuminate, 7.8 cm long, 2.2 cm wide, apparently erect, green (in age). Spadix a little shorter than spathe, borne on a stipe to 2.2 cm long, green. Pistils apically subtruncate.

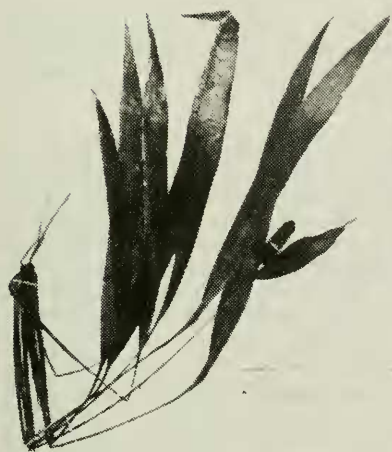




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**Spathiphyllum monachinoi** Bunt. var. **perangustum** Bunt., var. nov.

TYPE: O. Huber 3118 (holotype, NY; isotype, MYF, VEN): Venezuela: Amazonas: Depto. Atabapo: en bosque inundado basimontano al N del Cerro Cucurito, ribera al SE del medio Caño Yagua, 3°37' N., 66°34' O., 120 m, 17 Jan 1979. Figure 22.

A varietate typica foliorum lamina proportione angustiore (10-14ies longiore quam latiore) differt, sed cum illa petiolo laminam subaequantia vel ea paulo brevior congruens.

The collections identified as S. monachinoi show considerable variation of leaf blade width in proportion to length, as well as of petiole length in relation to blade length. The type material of this species has leaf blades 8.2-9.4 times longer than wide and petioles subequalling the blade length. The material with the narrowest leaf blades (10.3-14 times longer than wide) is here segregated as var. perangustum. The remaining assemblage of specimens have somewhat similar characteristics, but with leaf blades as broad as 6.3 times longer than wide, and with petioles up to 1.5 times longer than the blades. Although all were collected in the Orinoco drainage in the general area between Puerto Ayacucho, Catañapo, and Santa Bárbara del Orinoco, the number of specimens is small and they exhibit no patterns of variation that permit farther varietal recognition at this time. One of the most distinctive of the group (Liesner 18748 [MO]) was collected on Cerro Yureba (350 m) in the lower Río Ventuari drainage.

#### STENOSPERMATION

**Stenospermation nebulense** Bunt., sp. nov. TYPE: Maguire, Wurdack & Bunting 36857 (holotype, NY): Venezuela: Amazonas: Depto. Río Negro: Cerro de la Neblina, 2-8 km south of Camp 3; high montane forest, 1600 m, 24 Dec 1953. Figure 23.

Stenospermatio ammitico Bunt. petiolorum alis latis geniculi basi tenuis attingentibus et foliorum laminae consistentia simile, sed ab eo foliorum lamina angustiore et fere oblonga latitudine tantum ca. 1/4 (ad 0.28) longitudinis suae partes aequanti (in illo lamina plerumque elliptica, latitudine ca. 2/5 (0.42) longitudinis suae partes aequanti) et pedunculo prope apicem suum recurvato spadice cum spatha nutanti distinguitur; a S. multiovulato (Engl.) N. E. Brown foliorum lamina minori (in foliis majoribus tantum 20-25 cm longa), basi et apice plus minusve obtusa et, a saltem exemplaribus Venezuelicis ejus, lamina ambitu elliptico-oblonga (non obovata) differt.

Herb. Stem . . . Petiole 16.5 cm long, broadly winged up to base of geniculum with wings persistent or margins tardily drying and sloughing off; petiole of leaf subtending inflorescence to 26 cm long; geniculum 0.9-1.3 cm long. Leaves strict. Leaf blade subcoriaceous, elliptic-oblong, or in leaf subtending inflorescence slightly obovate-elliptic, base obtuse and briefly attenuate or wide acute, apex obtuse and abruptly acuminate (1.5-2 cm); lateral

veins all subequal, arising at angle of ca. 25-30°. Peduncle to 52 cm long, near apex recurved, spadix and spathe nodding. Spathe (base only present in specimen) inserted at angle of ca. 45°. Spadix 9 cm long, on a stipe 0.4 (back)-0.8 (front) cm long.

This taxon is the one intended to have been treated in the description of *S. ammiticum* Bunt. subsp. *neblinae* Bunt. (Phytologia 60: 339. 1986). Working without benefit of either specimen or photograph at hand, the wrong collection (Maguire et al. 37281 [VEN]) was cited as type of that name and the description drawn from same. The error was readily discerned by subsequent study of that specimen which agrees closely with typical *S. ammiticum*, although the label states that the plant was vining, a character not associated with this species. At present, our meager knowledge of *S. ammiticum* does not justify recognition of a distinct taxon based on habit alone. Therefore, the subsp. *neblinae* should be ignored and the name placed in synonymy under *S. ammiticum*.

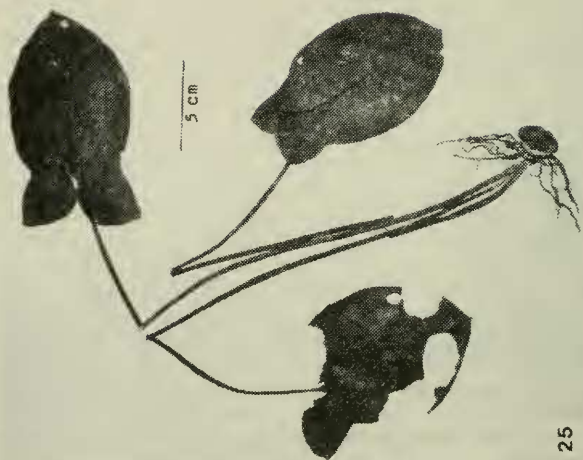
The species here described as new is based on the distinctive specimen (Maguire et al. 36857 [NY]) that, according to the label, was collected on the slopes of Cerro de la Neblina not far below the place of collection of Maguire et al. 37281. Other label data, viz., "Epiphyte to 25 m high... calyx 3-lobed; corolla 5-lobed", are baffling; plants of this genus are generally rather short and not known to grow in tree tops (at least in Venezuela), and their flowers have neither calyx nor corolla.

#### XANTHOSOMA

***Xanthosoma contractum* Bunt., sp. nov.** TYPE: Steyermark, Liesner & Holst 131318 (holotype, VEN): Venezuela: Bolivar: Dtto. Cedeño: km 88.7 SW of Caicara del Orinoco, level forest (now flooded) on road to Salto Chavaripa, 7°7' N., 66°28' W., 100 m, 4 Sept 1985. Figure 25.

Herba acaulis. Cormus valde compresso-sphaeroideus, in sicco ca. 2.3 cm diam., 1.4 cm crassus. Folia ca. 3. Petiolus usque ad 33 cm longus, parte proximali vaginatus. Foliorum lamina membranacea ambitu plus minusve oblonga vel obovata sed in loco petioli insertione opposito utrinque contracta, 11-12 cm longa, inter apices loborum posticorum necnon in loco ca. 4 cm supra petioli insertionem 6-7.7 cm lata sed ubi contracta tantum 4.5-6 cm lata; lobo antico late elliptico ad 9.5 cm longo apice obtuso et acuminato (0.3 cm); lobis posticis ovato-subtrapeziformibus directis vel paulo extrorsis apice obtuso-angulatis, imbricatis vel in sinu 2.1-2.8 cm longo vix sejunctis, secus costulam posticam 3-4.2 cm longis 2.3-3 cm latis; nervis lateralibus I. costalibus utrinque ca. 5-6 sub angulo ca. 45° abeuntibus, nervorum pari secundo in nervum collectivum ad apicem currentum a margine 0.7-1.1 cm remotum transiente. Inflorescentia ignota.

This cormous plant does not seem to agree with any other known from Venezuela or adjacent areas. The petiole reaches 33 cm long, while the leaf blade, with its broadly elliptic anterior lobe and distinctive posterior lobes, does not exceed 12 cm in length.



**Xanthosoma exiguum** Bunt., sp. nov. TYPE: H. Clark, F. Delascio & C. Broome 7830 (holotype, MO): Venezuela: Amazonas: Depto. Río Negro: 5.3 km NNE of San Carlos de Río Negro, 1°56' N., 67°3' W., on Solano road, near secondary radar construction site, in bulldozed white sand, 119 m, 23 Mar 1981. Figure 24.

Species insignis pumila ca. 20 cm alta, fortasse ex affinitate X. pilosi, sed ubique glabra et spatha in tubo et fauci ut videtur sine colore rubro; a congeneribus aliis differt foliorum lamina ambitu longe triangulari basi plus minusve subcordata vel auriculata apice sensim attenuata, nervo colectivo rectiusculo (non repando) a margine 0.25-0.6 cm remoto.

This is a distinctive, dwarf species ca. 20 cm tall. It is characterized by the leaf blade elongate triangular in outline, more or less subcordate or auriculate at base and long attenuate at apex, with a smooth (not scalloped) principal collective vein running to the apex about 2.5-6 mm from the margin. The petiole is slightly shorter than the blade.

**Xanthosoma mafaffoides** Bunt., sp. nov. TYPE: R. Liesner & B. Stannard 16952 (holotype, MO): Venezuela: Amazonas: Depto. Río Negro: Cerro de la Neblina, Camp V, valley north base of Pico Cardona, 0°49' N., 66° W., 1250 m, 21-24 Mar 1984. Figure 26.

Differt a X. mafaffa Schott caule aereo usque ad 1 m longo et costulis posticis in sinu longius nudis; a X. undipes Koch et X. maximilianii Schott foliorum lamina proportione angustiore latitudine sua plus quam sesquilingiore (1.6-1.8) (in illis lamina latitudine sua paulo brevior vel ad fere sesquilingiore [0.9-1.4]), inflorescentiis ut videtur solitariis spathae tubo (praesertim intus) haud atropurpureo autem viridi (fide collectorum) distinguitur; praeterea a X. undipes lobis posticis apice plus minusve acutangularibus distinctum.

Large herb. Stem ca. 1 m long, 9-13 cm thick, with some light brown fibers retained. Petiole unknown. Leaf blade ovate-sagittate

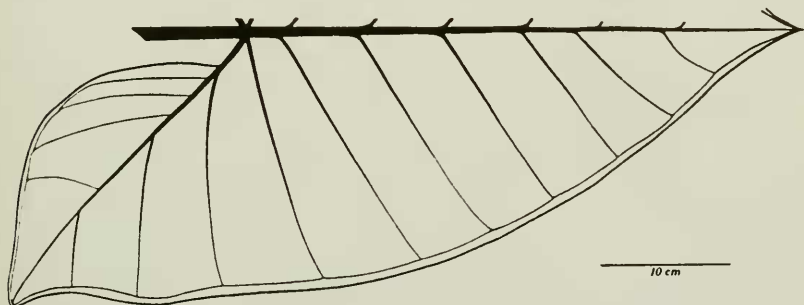


Figure 26. **Xanthosoma mafaffoides** Bunt. (based on Liesner & Stannard 16952 [MO]).

in outline, ca. 63 cm long, 40 cm wide (1.6 times longer than wide), apex acuminate; posterior lobes trapeziform, more or less flaring in apical 5 cm, 39 cm long (along basal rib), 18 cm wide, apically acutely angular but blunt-tipped, outer margin repand, inner margin strongly convex, portion of blade between basal rib and sinus margin to 8 cm wide; sinus 21 cm long, 5 cm wide; primary lateral veins in anterior lobe ca. 7-8 on each side of midrib arising at angle of ca. 55-65°, collective vein 0.45-0.7 cm from margin, basal ribs nude in sinus ca. 3 cm. Spathe 14.5 cm long, [limb?] at anthesis white, [tube?] green.

Xanthosoma maffoides is poorly known. The type collection lacks adequate field notes, thus limiting its value both in circumscribing this taxon and in correlating it with other Xanthosoma collections from Cerro de la Neblina.

## LIST OF NEW TAXA AND ILLUSTRATIONS\*

- \*Anthurium bonplandii
  - subsp. bonplandii (included for comparison). Fig. 5
  - subsp. rionegreense (Steyermark & Bunting 102741). Fig. 1 & 2
- \*A. corocoroense (Maquire & Maquire 35425). Fig. 3
- \*A. guaiquinimae (Steyermark, Dunsterville & Dunsterville 113258). Fig. 4
- \*Anthurium vinillense (Huber 6201). Fig. 6
- \*Dracontium lineare (T. & C. Gragson 4, infls.; 13, leaf). Fig. 9
  - Heteropsis flexuosa var. mauirei
  - Philodendron brevispathum subsp. holmquistii
  - P. callosum subsp. ptarianum
- \*P. conforme (Croat 59355). Fig. 7
  - P. englerianum subsp. duidae
- \*P. holstii (Liesner & Holst 21252). Fig. 8
  - P. linnaei var. rionegreense
- \*P. mawarinumae (Croat 59339). Fig. 10
- \*P. nebulense (Croat 57479). Fig. 12 & 13
- \*P. peperomioides (Holst & Liesner 2704). Fig. 14
  - P. phlebodes var. kermesinum
  - P. remifolium subsp. sabulosum
- \*P. samayense (Liesner & Holst 18850). Fig. 15
- \*P. scitulum (Liesner 17771). Fig. 11
- \*P. simulans (Croat 59427). Fig. 16
- \*P. yutajense (Liesner & Holst 21858). Fig. 17
- \*Rhodospatha brachypoda (Liesner 15978). Fig. 18
- \*R. cardonae (Liesner & Stannard 16911). Fig. 19
- \*Spathiphyllum bariense (Liesner 16984). Fig. 20
- \*S. mawarinumae (Thomas & Plowman 3104). Fig. 21
- \*S. monachinoi var. perangustum (Huber 3118). Fig. 22
- \*Stenospermation nebulense (Maquire, Wurdack & Bunting 36857). Fig. 23
- \*Xanthosoma contractum (Steyermark, Liesner & Holst 131318). Fig. 25
- \*X. exiguum (Clark, Delascio & Broome 7830). Fig. 24
- \*X. maffoides (Liesner & Stannard 16952). Fig. 26